

**METHOD, APPARATUS AND COMPUTER PROGRAM PRODUCT FOR
IMPLEMENTING AUTOMATED DETECTION OF EXCESS AGGRESSOR
SHAPE CAPACITANCE COUPLING IN PRINTED CIRCUIT BOARD
LAYOUTS**

5 Abstract of the Disclosure

10 A method, apparatus and computer program product are provided for
implementing automated detection of excess aggressor shape capacitance
coupling in printed circuit board layouts. A PCB design file containing an
electronic representation of a printed circuit board design is received. A list
of candidate shapes is identified. The candidate shapes are disposed on
layers adjacent to aggressor planes. A capacitance coupling the candidate
shapes to adjacent aggressor planes is calculated. A ratio of the calculated
capacitance and a decoupling capacitance connecting the candidate shapes
to a reference plane is determined. The PCB design file containing an
15 electronic representation of a printed circuit board design includes shape
data and text data that are extracted to produce a list of shapes' names,
areas, locations and planes; and includes data defining thickness and
relative permittivity of the dielectric layers used for calculating the effective
capacitance is an inter-layer parallel-plate effective capacitance.